

# Chapter 37 SHEARS AND NIPPERS

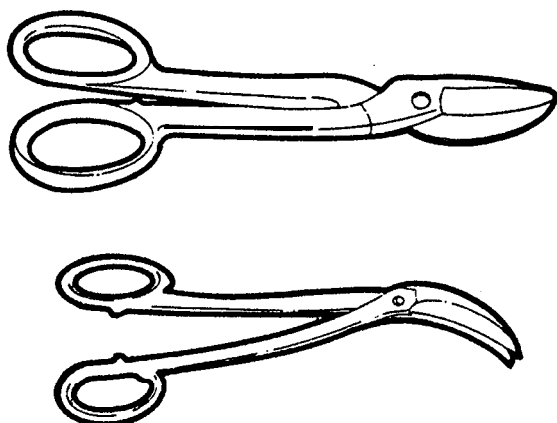
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## HOW TO CHOOSE AND USE THEM

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The "Types and Uses" section provides you with a list of some of the types of shears and nippers. These pages should help you select the right tool to do the job.

The "Using" section tells you how to use the shears and nippers to perform the desired function. The "Care" procedures tell you how to care for the items.

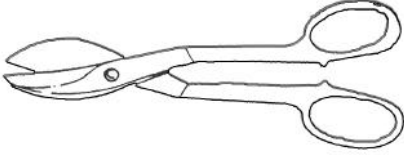


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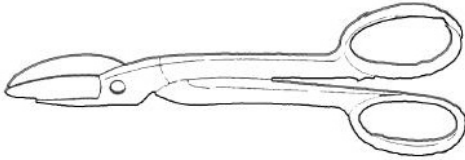
## TYPES AND USES

Shears are used for cutting sheet metal and steel of various thicknesses and shapes. Shears come in a variety of styles and sizes.



### HAND SHEARS

Hand shears are made with straight or curved cutting blades. Shears are made for right-handed operators so the cutline is always in full view for accurate cutting.

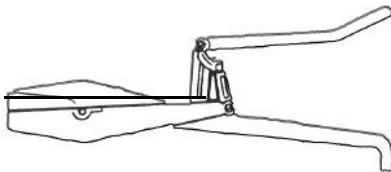


Straight-bladed shears are used to cut straight lines or to cut curves in locations that are easily reached.



Shears with curved blades such as the hawk bill and the curved blade hand shears are made especially for cutting short straight lines or curves. They are also used for cutting out small intricate designs in locations where it is necessary to keep the handles and handle-operating hand away from the metal stock.

### TINNER'S BENCH SHEARS



The tinner's bench shear is larger than a hand shear and is used for cutting heavy sheet metal. The lower handle has a hook which can be placed in a hole in the bench so

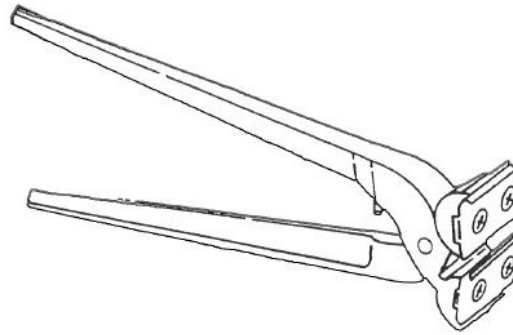
that the operator will have a free hand to guide the work. The bench shear makes a 6-inch cut and is approximately 36 inches long.

### METAL SHEARING MACHINE



The metal shearing machine is foot-operated and is used to cut original sheets into smaller, usable size stock. The shear blade is 36 inches long and will cut all sheet metal up to and including 1/16 inch of mild steel or 1/8 inch of iron.

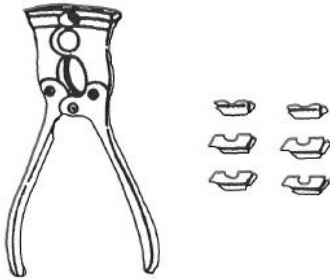
### NIPPERS



Nippers are used to cut protruding metal flush with a surface. They are also used to cut wire, bolts, nails, and light metal bars to specified dimensions. Nippers come in a variety of styles and sizes.

## TYPES AND USES - Continued

### CUTTING NIPPERS



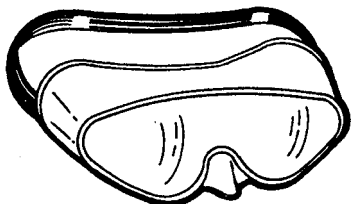
Some nippers have adjusting screw stops in the handle and adjustable jaws. Others have detachable jaws with compound leverage and come with three extra pairs of jaws. Cutting nippers range in size from 5-1/2 to 15 inches long and up to 1-3/4 inches in jaw widths.

Cutting nippers are available with integral or detachable cutters. They are used to cut wire, light metal bars, bolts, nails, and to cut protruding metal flush with a surface.

### SAFETY

1. Keep fingers, hands, and other parts of the body clear of the cutting edges of bench shears, the shearing machine, hand shears, and nippers.
2. Do not carry shears or nippers in your pocket.
3. Always steady the work that is to be cut.
4. After use, be sure to hang the tools or store them in their proper place.

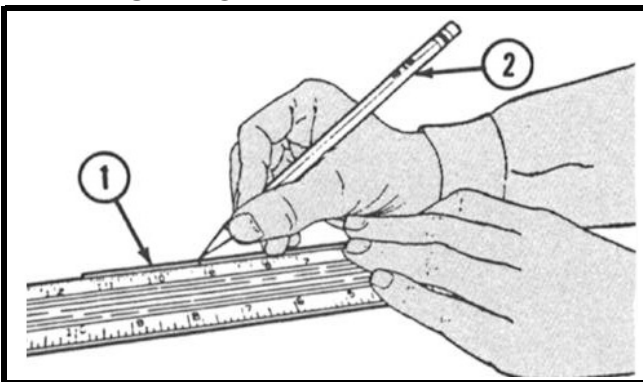
### USING CUTTING NIPPERS



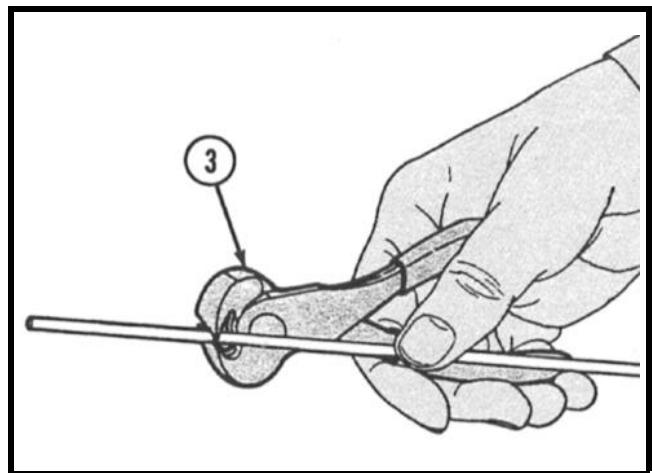
#### WARNING

WEAR EYE PROTECTION AND WATCH THE FINGERS.

#### WIRE CUTTING



- 1 Place the wire (1) on the table. Measure the section to be cut off. Mark it with pencil, chalk, soapstone or other suitable marking piece (2).



- 2 Take the nippers (3) in the right hand and place the cutting edge on the mark.

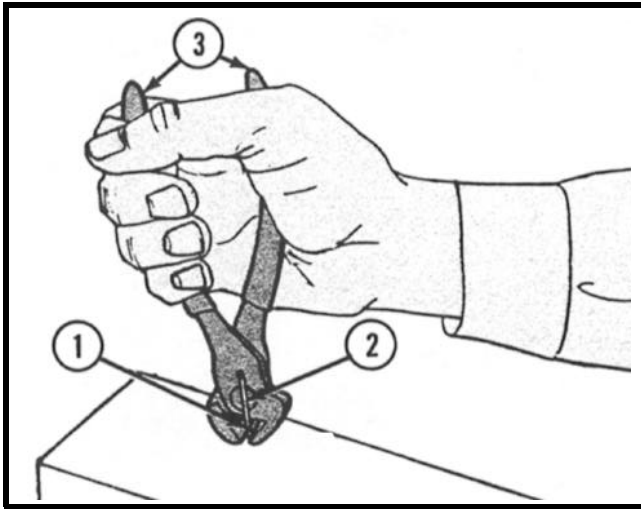
#### NOTE

Left-handed people will reverse this procedure.

- 3 Squeeze the handles together slowly, exerting enough pressure to cut the wire.
- 4 Repeat procedure for as many pieces of wire as need to be cut.

## USING CUTTING NIPPERS - Continued

### FLUSH CUTTING



- 1 Place the cutting edge (1) of the nippers over the nail, wire, rivet, or bolt (2) that is to be cut flush with the surface.
- 2 Squeeze the handles (3) together slowly, exerting enough pressure to cut the materials.
- 3 File cut edge smooth to prevent injury.

## CARE OF SHEARS AND NIPPERS

1. Keep tools clean at all times. Lubricate the pivot screw or bolt with a drop of light oil.
2. Remove rust with a fine aluminum-oxide abrasive cloth.
3. Apply a thin film of oil on tools to prevent rust, and hang tools on hooks or place them on a shelf when not in use.
4. Do not throw cutting tools together in a box where the cutting edges may be damaged.
5. Do not use the shearing machine table as a storage place for other tools and work.
6. Do not attempt to cut material heavier than the tools or machines are designed to handle.
7. Do not use shears or nippers as hammers or pry bars, as they are easily damaged.
8. Dull shears can usually be sharpened on an oilstone or with a file.

### CAUTION

Do not grind shears if sharpening is all that is necessary. Most shears become useless after two or three grindings.

9. Grind the shears and nippers only if the cutting edges become nicked, damaged, or distorted from improper sharpening or prolonged use.
10. For long-term storage, coat tools with a rust-preventive compound and store in a dry place where the cutting edges will not come in contact with other metal objects.